The invention relates to a system for fixing a shoe to a snowboard, in particular a quick-fit system comprising a heel release, also called a spoiler, and a heel-piece described in my Patent FRA 2,760,373. Existing systems have a relatively high number of additional parts compared with standard fixing systems with locking catches, springs acting on the latter and cams unlocking the assembly and, on the other hand, located at the bottom of the fixing systems, they are difficult to reach. A purpose of the present invention is to simplify this by also equipping the heel release with functions of locking catches and of cams unlocking the system.

The fixing system comprises a base with a transversal section in a "U" shape equipped with a sole fixed flat on the snowboard, two wings extending up the sides of the sole, a heel release, a vertical part holding the rear of the shoe, placed transversally at the rear of the base, dividing in its lower part into two branches each interlocked to a wing of the base by means of a pin, each branch extending on the other side of the pin, descending towards the base. A lower part of the branches of the heel release located under each pin is housed under pressure from springs above part of the shoe or a heel-piece linked to the latter, located on the sides of the shoe, on each side of the heel, which parts may for example be in the form of catches engaging in notches of matching shape, preventing the shoe from coming out of the fixing system. The spring, having an angular action, surrounds the pin, one end pressing on the base, the other end, in contact with the heel release, causes the part of the latter which is located beneath the pin to pivot towards the front of the fixing system. The unlocking of the shoe or its heel-piece is achieved by pushing the top of the heel release towards the front of the fixing system.

Stops on the base in contact with the shoe or the heel-piece prevent said shoe from slipping towards the front and the rear of the fixing system.

In order to avoid accidental pivoting of the heel release on impact, a mobile blade, linked by one of its ends to the heel release, forms a loop behind said heel release, the other end of this blade is free and passes through an opening made in the heel release through the latter, and comes into contact with the rear of the shoe. In the event of an impact at the rear of the fixing system, the blade therefore comes to rest against the shoe, not the heel release.

Another safety feature consists of dividing the heel release into two parts; the lower part which holds the shoe or its heel-piece and the upper part on which the shoe rests. This upper part has two oblong holes in its base, substantially vertical, through which two pins pass which connect it to the lower part, offering partial freedom in rotation and in vertical translation of the upper part with respect to the lower part. The base of the upper part also comprises at least one element located beneath an element in a shape which matches the lower part, at a distance substantially equal to that covered by the pins in the oblong holes, which elements press and fit together when the upper part is lifted by the user, only then joining the two parts of the heel release in rotation. A return spring linking the two parts helps the upper part to return to the normal position of use when released. To open the fixing system, two movements are therefore necessary: the top of the heel release must be raised and pushed forward.

According to another embodiment, the lower part of the heel release, in the shape of a bow, holding the heel-piece, has on its rear an element, a handle, which is easy to hold and which, by pulling upwards, allows the rotation of the lower part and therefore the releasing of the heel-piece.

The front part of the shoe intended for this fixing system has on the sides of its sole two flat parts which slide into two housings of matching shape which pivot about pins connecting them to the front of the wings of the base.

Figures 1 and 2 show a longitudinal section of a fixing system and its shoe holding system according to the invention. Figures 3, 4 and 5 represent sections of a heel release in two parts.

With reference to these figures, the fixing system is constituted by a base (1) comprising a sole (11) fixed flat on the snowboard and two wings (12) extending up the sides of this sole (11), a heel release (2) placed transversally at the rear of the base (1), dividing in its lower part into two branches (21) each interlocked to a wing (12) by means of a pin (3). The lower part of these branches (21) is housed in a notch of a shape matching the latter cut into the extensions (41) of a heel-piece linked to the shoe (4) located on the sides of the latter, on either side of its heel. A spring (5) having an angular action surrounds the pin (3), one of its ends fits into a groove located on the top of the wing (12) of the base (1), the other end in a groove located on the heel release (2) above the pin (3) causes the heel release (2) to pivot about the latter.

Two stops (6) formed by additional thicknesses of the wing (12) located in front of and behind the extension (41) prevent the shoe from sliding in its fixing system.

A flexible blade (22) is fixed on top of the heel release (2) by one of its ends; the other, passing through an opening (23) in the heel release (2) comes to rest against the back of the shoe (4).

According to other variations, the heel release (2) is divided into an upper part (24) and a lower part (25). The upper part (24) is divided at its base into two branches in the form of hooks (26) with two oblong holes (27) through which the pins (3) pass connecting the upper parts (24), lower parts (25) and the wings (12) of the base (1). The lower part (25) has two flat parts (29) in shapes matching those of the hooks (26) and located above the latter.

- A handle (251) is fixed behind the lower part (25).

- Two flat parts (42), located on either side of the shoe (4) at the front, moulded with the sole, slipping under angles (7) linked by pins (71) to the wings (12) (Fig 6 and 7).